

Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A method of determining effects of a substance on ~~an~~at least one organ, comprising:

analyzing the at least one organ to determine whether the organ is suitable to be transplanted; and

based on a determination that the organ is not suitable to be transplanted, further comprising:

perfusing the at least one organ with a first medical fluid to preserve the at least one organ;

exposing the at least one organ to at least one test substance; and

gathering data regarding at least one of the at least one organ, the at least one test substance, and interaction between the at least one organ and the at least one test substance.

2. (Original) The method of claim 1, wherein the exposing step is carried out by perfusing the organ with a second medical fluid containing the test substance.

3. (Original) The method of claim 2, wherein the first and second medical fluids are the same.

4. (Original) The method of claim 2, wherein the first and second medical fluids are different.

5. (Original) The method of claim 1, wherein at least one of the at least one organ and an effluent from the organ is monitored by a sensor that senses characteristics of at least one of the effluent and the at least one organ.

6. (Original) The method of claim 5, further comprising generating data comprised of the sensed characteristics.

7. (Currently Amended) The method of claim 6, wherein the data ~~can be~~ are generated and displayed in real time, stored, transmitted to a remote site, transferred to a recording medium, or relayed to a microprocessor for assessment.

8. (Original) The method of claim 2, further comprising collecting the second medical fluid that has passed through the at least one organ from an organ bath and sensing characteristics of the collected medical fluid indicative of the interaction between the at least one organ and the test substance.

9. (Original) The method of claim 2, wherein the test substance is a chemical compound.

10. (Original) The method of claim 2, wherein the test substance is at least one of natural and modified antibodies.

11. (Original) The method of claim 2, wherein the test substance is an immunotoxin.

12. (Original) The method of claim 2, wherein the second medical fluid is blood.

13. (Original) The method of claim 5, wherein the sensed characteristics relate to at least one of absorption, distribution, metabolism and excretion.

14. (Original) The method of claim 5, wherein the sensed characteristics relate to at least one of pharmacokinetics, pharmacodynamics and toxicity.

15. (Original) The method of claim 5, wherein the sensed characteristics relate to at least one of determining what the substance is doing to the at least one organ and what the at least one organ is doing to the substance.

16. (Currently Amended) A method of screening at least one ~~organ with a~~ bioactive agent, organ, comprising:

~~determining that~~ analyzing the at least one organ to determine whether the
organ will not ~~is suitable to be transplanted; and~~

based on a determination that the organ is not suitable to be transplanted,
further comprising:

perfusing said at least one organ with a first medical fluid to preserve
the organ;

exposing the at least one organ to at least one test substance; and
gathering data regarding at least one of the at least one organ, the at
least one test substance, and interaction between the at least one organ and the at least one test
~~substance.~~ substance,

wherein the at least one test substance is a bioactive agent.

17. (Canceled)

18. (Original) The method of claim 16, further comprising the steps of:
perfusing the at least one organ with a first medical fluid; and
sensing fluid characteristics indicative of organ viability.